

part of the last two whorls is deeply channelled. The tubercles forming the coronation are hollow spines, and far more numerous, almost double the number of the nodosities in *nivosa*. The ground-colour is salmon-red and the white markings take the form of flecks or splashes rather than of spots and dots. The aperture is large and whiter within, and the columellar folds are white.

V. nivosa, *V. irvineæ*, *V. oblita* (= *norrisii*, auct., nec Gray), and *V. sophia* form a group of species which possess some features in common, namely, the radiating brown lines upon the spire, the coronated whorls, brown or reddish lineation on the anterior fasciole, and two transverse colour-bands, more or less lineated except in *V. sophia*, and they all exhibit white spotting or mottling upon the rest of the surface of the body-whorl. This is not seen in any of the published figures of *V. sophia*, but it does occur in some examples.

It becomes a question of regarding these four forms as distinct or as local races of one species with a wide geographical range upon the north and west coasts of Australia. *V. nivosa* and *V. irvineæ* are the two most southern forms, occurring off Swan River and as far north as Shark's Bay; *V. oblita* ranges further north, about the Dampier Archipelago, and *V. sophia* is restricted to the extreme north of the continent.

Mr. W. F. Petterd, who does not accord specific rank to *norrisii* (auct.) and *sophia*, Gray, has given the distribution of these forms and of *V. nivosa* (Journ. of Conch. vol. ii. p. 341).

XII.—*New African small Mammals in the British Museum Collection.* By OLDFIELD THOMAS.

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AMONG the following new animals special attention may be directed to the interesting new genus of Muridæ discovered by Dr. Hinde in the coast region of British East Africa, to the new *Taphozous* also sent by him from the same district, and to the new *Heterocephalus* from Somaliland, in connexion with whose descriptions I have ventured on some speculations about the dental formula in the group.

Taphozous hildegardeæ, sp. n.

An African representative of the Asiatic black-bearded *T. melanopogon*.

Radio-metacarpal pouch distinct. Lower lip scarcely grooved. No gular sac in male or female; a well-marked blackish board in the male, covering the whole under surface of the throat. Upper surface pale brown, the bases of the hairs white, their tips chocolate-brown. Lips and chin anterior to the beard pale brown. Belly white, a few hairs tipped with brown. Limbs pale brown. Upperside of antibrachial, interfemoral, and wing-membranes near the body also brown, the more distal part of wing-membrane whiter; underside of all membranes white, as is the fur on the membrane on each side of the body. Ears, feet, and tail about as in *T. melanopogon*.

Skull as in *T. melanopogon*, but rather larger, and the brain-case broader.

Dimensions of the type (measured on the spirit-specimen):—

Forearm 70 mm. (another ♂ 67·5, a ♀ 65·5).

Head and body 83; tail 22; ear 20; third finger, metacarpal 61, first phalanx 21·5, second phalanx 24; lower leg and foot (c. u.) 37·5.

Skull: greatest length 21·7; front of canine to back of m^3 9·2.

Hab. Mombasa district. Typo from Rabai, 700'; others from Shimoni, sea-level.

Type. Adult male. B.M. no. 9. 6. 12. 7. Original number 613. Collected and presented by Dr. and Mrs. Hinde. Four specimens.

This is a most interesting species, as it represents in Africa the Asiatic black-bearded *T. melanopogon*, not known west of India proper. From this it is distinguished by its larger size, the greater extension over the throat of the black beard (more as in *T. theobaldi*), and its broader skull. No known African species are at all like it.

I have named the species in honour of Mrs. Hinde, who has so ably assisted in her husband's East-African collecting-work, and who has taken a special interest in bats.

Crocidura nanilla, sp. n.

Closely allied to *C. nana*, Dobs., of Somaliland, but even smaller. Colour and proportions about as in that animal.

Body slaty above, rather paler below; chin, hands, and feet white. Tail brown above, white below, smooth, finely ringed, well provided with longer bristles. No lateral gland perceptible in a female.

Skull smaller and with a shorter brain-case than in *C. nana*.

Teeth more delicate, the concavities on the posterior side of p^4 , m^1 , and m^2 deeper.

Dimensions of the type (measured on the spirit-specimen):—

Head and body 41 mm.; tail 31; hind foot 8.2; ear 6.3.

Skull: condylo-incisive length (to front face of incisors) 15; greatest breadth 6.8; height of brain-case 3.4; front of incisor to hinder corner of m^2 6.2.

Hab. Uganda (probably Entebbe).

Type. Female in spirit. B.M. no. 9. 7. 14. 1. Original number 856. Collected by Herr Simon.

This species shares with *C. nana* its exceedingly low flattened brain-case, that of the equally small *C. bottegi*, Thos., being very markedly higher.

The type specimen of *C. nanilla* has on one side an extra tooth behind the usual unicuspid of *Crocidura*, and so may be said to be a *Pachyura* on one side and a *Crocidura* on the other. But the extra tooth is abnormal in shape, not like that of *Pachyura*, and I have therefore disregarded it in allocating the species to its genus.

Heliosciurus undulatus dolosus, subsp. n.

Colour throughout, as compared with typical *undulatus*, duller and more smoky, the rusty or tawny replaced by smoky grey-brown. Upper surface dark coarsely grizzled grey, the hairs broadly blackish at base, then dull cream-buff, the narrow subterminal rings white. Under surface dull brownish, with a slight buffy suffusion. Front of arms to wrists and outer side of legs dark grizzled grey like body, inner sides dull brownish rusty; hands and feet dull grizzled ochraceous. Tail ringed greyish, without (at least at its base) any mixture of rusty, the hairs with 4 or 5 black rings and as many dull whitish ones.

Size apparently as in true *undulatus*, but no measurements available.

Hab. Mafia Island, off coast of German E. Africa.

Type. Adult male. B.M. no. 8. 6. 19. 3. Collected and presented by Stewart Walrond, Esq.

This Mafia squirrel is readily distinguishable from true *H. undulatus* by its generally darker tone and the replacement of the rufous colour by dull brownish. It has, in fact, a great resemblance, especially when viewed from below, to some of the members of the *H. rufobrachiatus* group. It may, however, be distinguished from these by the prominent white ticking of the upper surface, the differently coloured

feet, and by its geographical isolation, the nearest forms of *H. rufobrachiatus* being *H. r. nyansa* of Kavirondo, Mount Elgon, &c., and *H. r. semlikii* of the Semliki and Entebbe.

Heliosciurus undulatus daucinus, subsp. n.

More rufous throughout than true *undulatus*. Whole of head of the same vivid rusty colour as the belly, though broken by a few black-tipped subterminally white-ringed hairs. Back strongly suffused with red, the hairs blackish brown for their basal 4 mm. only, then broadly orange-rufous nearly or quite to the subterminal buffy-whitish band, the extreme tips black. Arms and hands completely rusty from elbow and hind limbs from middle of tibiae, the inner side of the latter of rather a deeper red than elsewhere. Tail-hairs, instead of being ringed throughout, with their basal three-fourths uniform brilliant orange-rufous, succeeded by a black subterminal and a cream-buff terminal band.

Skull as in true *undulatus*.

Dimensions of the type:—

Hind foot 54 mm.

Skull: greatest length 54; condylo-basal length 50; length of upper tooth-row 10.6.

Hab. Mombasa, Brit. E. Africa.

Type. Adult male. B.M. no. 80. 11. 30. 3. Collected by Sir John Kirk.

This squirrel is readily recognized by its red head and the nearly wholly red hairs of its tail.

The Heliosciurus gambianus Group.

An earlier name than *gambianus* is commonly used in connexion with this group of squirrels, namely Desmarest's *Sciurus annulatus*. But I am not prepared to accept it as determinable. The description* is not in the least diagnostic, no locality is recorded, and the type is no longer in the Paris Museum. *S. annulatus* may therefore have been any ring-tailed squirrel from any part of the world, and its arbitrary assignation to the present animal is only productive of confusion. It should therefore be set aside as indeterminate.

Of this group the following species at least appear to be recognizable:—

* *Desm. Mamm. ii. p. 338 (1822).*

H. gambianus, Og.—General colour sandy fawn, without suffusion of rufous; underparts white. *Hab.* W. Africa, Gambia to Nigeria.

H. isabellinus, Gray.—General colour darker grizzled grey-brown, a certain buffy suffusion both in the upper and ventral colours. *Hab.* Angola.

Dr. Ansorge obtained at Canhoca, N. Angola, a specimen agreeing closely with Gray's type of *isabellinus*, of which no exact locality had previously been recorded.

H. rhodesiæ, Wrought.*—Clear grizzled grey throughout, with scarcely any yellowish or buffy suffusion; under surface white; tips of tail-hairs prominently white. *Hab.* Northern Rhodesia and neighbouring parts of S.E. Congo State.

H. multicolor, Rüpp.—General colour richer and darker than in the western forms. Under surface more or less suffused with rufous, which sometimes covers the whole of the belly, inner side of limbs, and base of tail, and is sometimes restricted to the anal region. *Hab.* Abyssinia.

Allied to this, and, as I consider, subspecies of it, are Neumann's *H. kaffensis* and *abassensis*.

H. bongensis, Heugl.—Distinguishable from all other members of the group by its small size, its skull being conspicuously smaller than in *multicolor* and its nasals shorter. General colour pale grizzled sandy above, greyer on the sides, white below, the anal region tawny or ochraceous. *Hab.* Bahr-el-Gazal, ranging westwards to the Shari R.

The following four new forms may be described as subspecies of *H. multicolor* :—

Heliosciurus multicolor lateris, subsp. n.

General characters of true *multicolor*, but paler throughout.

Colour almost as in *H. bongensis*, the general tone clear greyish, with but little buffy suffusion. Belly and inner sides of limbs white, no buffy present, not even along the

* *Funisciurus annulatus rhodesiæ*, Wroughton, Mem. Manchester Soc. li. no. 5, p. 15 (1907).

outer edge of the forearms. Hands and feet greyish, becoming white terminally, without buffy. Tail ringed black and greyish white, its basal three inches below buffy along the middle line, but the remainder without buffy suffusion.

Skull and feet rather smaller than in true *multicolor*, markedly larger than in *bongensis*.

Dimensions of the type (measured in skin):—

Head and body 240 mm.; tail 210; hind foot (c.) 44.

Skull: greatest length 46·5; basilar length 35·5; zygomatic breadth 27; nasals 15·3; length of upper cheek-tooth series 8·6.

Hab. Lado.

Type. Adult female. B.M. no. 87. 12. 1. 35. Collected 16th February, 1884, and presented by Dr. Emin Pasha.

This is evidently a desert-squirrel, distinguished from true *H. multicolor* by its paler colour and from *H. bongensis* by its larger size.

Heliosciurus multicolor elegans, subsp. n.

External appearance quite as in pale, not strongly buffy, examples of true Abyssinian *multicolor*, although the intermediate forms *kaffensis*, *abassensis*, and *omensis* are so different. Upper surface grizzled grey, lightly suffused with buffy; under surface dull whitish; ears, edges of forearms, upper surface of hands and feet, and anal region buffy. Tail-hairs with the light rings strongly buffy proximally, buffy white terminally.

Skull markedly larger than in any other member of the group, the brain-case long and narrow; forehead flat; post-orbital processes widely expanded; teeth rather small in proportion.

Dimensions of type:—

Hind foot 48 mm.

Skull: greatest length 50·5; basilar length 39; zygomatic breadth 29·5; nasals 15·5; upper cheek-tooth series 9·2.

Hab. Mt. Elgon, British E. Africa.

Type. Adult female. B.M. no. 93. 2. 3. 12. Original number 5. Collected February 1890, and presented by F. J. Jackson, Esq.

Considering how different in appearance the forms are which occur between this and the true *multicolor*, it is curious how like it is to that animal; but its elongate skull, with long brain-case and squarely expanded postorbital processes, will readily distinguish it. Prof. Neumann obtained what is no doubt the same squirrel in Ussoga and Kibwezi.

Heliosciurus multicolor omensis, subsp. n.

General intensity of colour about as in true *multicolor*, but the buffy suffusion reduced on the upper surface and quite absent from the lower surface and limbs. Belly greyish white, a prominent pure white patch on the chest. Posterior flanks, hips, and hind legs markedly greyer than the back. Hands and feet grizzled grey, not buffy, darker than in *H. m. lateris*, and not lightening terminally as in that form. Tail-hairs throughout ringed with black and buffy, the tips prominently pure white.

Skull much as in true *multicolor*, that of the type unusually broad.

Dimensions of the type (measured in skin):—

Head and body 225 mm.; hind foot 44.

Skull: greatest length 48; basilar length 36.5; zygomatic breadth 29.7; length of upper cheek-tooth series 10.

Hab. Region of the Lower Omo. Type from Kum Dingani, just east of the north end of Lake Rudolph.

Type. Old female. B.M. no. 6. 11. 1. 24. Original number 118. Collected 24th July, 1905, by Ph. Zaphiro, and presented by W. N. McMillan, Esq.

The suppression of the buffy colouring from the body and limbs, with its retention on the tail-hairs, distinguish this form from its nearest allies; in the Lado *lateris* it is suppressed throughout.

H. m. kaffensis, Neum., geographically adjacent, is a strongly coloured form, with buffy-ochraceous feet. *H. m. abassensis*, Neum., is darker both above and below, has a darker muzzle, the hips little greyer than the back, the hands and feet dull buffy, and the light tips to the tail-hairs are less conspicuous.

I owe to the kindness of Profs. Matschie and Neumann the opportunity of examining typical examples of the two squirrels described by the latter.

Heliosciurus multicolor cœnosus, subsp. n.

General colour darker grey than in *multicolor* and without the buffy suffusion. Under surface dull soiled whitish brown, the belly not conspicuously lighter than the sides, and even the chest but little lighter. Hands and feet greyish buffy, the outer side of the forearms conspicuously buffy. Tail dark grizzled grey, without buffy suffusion, the tips of the hairs of the same dull whitish as their light rings.

Skull as in *multicolor*.

Dimensions of the type (measured in the flesh) :—

Head and body 283 mm. ; tail 283 ; hind foot 47.

Skull : greatest length 50 ; zygomatic breadth 30 ; length of upper cheek-tooth series 9.

Hab. R. Ubanghi. Type from the Roman Catholic Mission situated at 19° 30' E. on the Ubanghi ; another specimen from Koango, a little higher up the river.

Type. Old female. B.M. no. 7. 7. 8. 83. Original number 34. Collected 7th November, 1905, by Capt. Boyd Alexander, and presented by the Alexander-Gosling Expedition.

In this form buffy is present on the feet and not on the tail, the converse of the case in subsp. *omensis*. The general colour is much darker than in *lateris*, and the muddy-coloured belly is also distinctive.

Paraxerus jacksoni capitis, subsp. n.

Similar to true *jacksoni*, but colour paler and more greyish green on the body, and on the extremities ochraceous replaced by buffy, and buff by whitish. General colour above pale greyish olivaceous, indistinct light flank-lines generally perceptible. Under surface soiled whitish or creamy white, the corresponding part in true *jacksoni* cream-buff or buff. Upper surface of hands and feet yellowish buff instead of ochraceous buff. Tail with the terminal rings, when unbleached, similarly yellowish, as compared with ochraceous, buff.

Skull as in true *jacksoni*.

Dimensions of the type (measured in flesh) :—

Head and body 180 mm. ; tail (broken, in another specimen of similar size 187) ; hind foot 41 ; ear 21.

Skull : greatest length 43 ; condylo-basal length 40 ; upper tooth-row exclusive of p^3 7.

Hab. Nairobi Forest, British East Africa. Alt. 5600'.

Type. Old female. B.M. no. 0. 2. 1. 11. Collected 19th July, 1899, by Prof. H. J. Mackinder. Fourteen specimens examined.

The considerable number of squirrels hitherto referred to *P. jacksoni* proves to be readily divisible into two sets according to the intensity of the buffy or ochraceous suffused through their general colour, and on their under surfaces, feet, and tail. Specimens from Munisu and Smara, to the north and eastward of Kenia, agree precisely with the type in these respects, while the Nairobi series are all of the paler and more yellowish character above described.

It is to be noticed that in this animal, as in *P. aruscensis*,
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considerable bleaching takes place, especially on the tail, so that old hairs of *jacksoni* may have the colour of those of fresh *capitis*, while in the latter again the yellowish rings may bleach nearly to white.

Paraxerus ochraceus, Huët.

This species is characterized by having an indistinct whitish line on the flanks and by its under surface (especially its throat) being whitish, as compared with the entire absence of a flank-line and the buffy or ochraceous under surface of *P. aruscensis* and its allies.

The type came from Bagamoyo, and to the typical race I assign a specimen from Mrogoro, Usagara, about 100 kilometres inland, which was obtained and presented by Emin Pasha. This specimen has the yellowish-ochre tinge on the back and the "jaune d'ocre pur" on the upper surface of the feet described in the type, and Mrogoro is so near Bagamoyo and on the trade-route to the interior (so that the type may even have been brought from Mrogoro) that I have no hesitation in making this reference, even though the next form comes from a locality that, like Bagamoyo, is on the coast. The latter does not, however, agree nearly so well with Huët's description.

Paraxerus ochraceus salutans, subsp. n.

Like true *ochraceus* in general characters, but the colour above more olivaceous, the yellowish reduced throughout. Hands and feet dull grey, mixed buffy or ochraceous buffy, not the clear rich ochraceous found in the typical form. Throat and chest pale buffy whitish. Tail-hairs tipped with buffy.

Skull and teeth rather larger than in true *ochraceus*.

Dimensions of type (measured in skin):—

Head and body 172 mm.; tail 158; hind foot (wet) 38; ear (wet) 15.

Skull: greatest length 40·5; condylo-basal length 36·3; upper tooth-series exclusive of p^3 6·2.

Hab. Dar-es-Salaam, coast of German East Africa.

Type. Adult male. B.M. no. 79. 11. 12. 10. Collected by Sir John Kirk. Two specimens.

Paraxerus ochraceus electus, subsp. n.

General colour of the same rather greyish olivaceous as in *P. o. salutans*, but the grizzling far finer, owing to the light

rings on the dorsal hairs being about 1.2 mm. in breadth as compared with about 1.8 mm. in that animal and in the typical *ochraceus*. Light lateral stripes barely perceptible. Throat whitish. Feet of same greyish buff as in *salutans*. Tail-hairs tipped with whitish or creamy instead of ochraceous buff.

Skull and teeth as in *P. o. salutans*.

Dimensions of the type:—

Hind foot 38 mm.

Skull: greatest length 38.3; condylo-basal length 35.6; upper tooth-row, exclusive of p^3 , 6.5.

Hab. Elgeyo, Brit. E. Africa.

Type. Adult male. B.M. no. 99. 8. 4. 58. Collected 1st August, 1896, and presented by F. J. Jackson, Esq., C.B.

This inland form has but little trace of the light lateral band characteristic of *P. ochraceus*, but its whitish throat shows its relationship to be with that species rather than with *P. aruscensis*.

It may be noticed that in the closely allied unstriped species *P. aruscensis*, Pag., there is a distinct seasonal change of colour, specimens killed February to April being a much greyer colour than those killed in the latter half of the year. A specimen from Mt. Elgon killed in February agrees in every detail with some from near Mombasa killed at the same date, while others from the latter region killed in July are as dark in colour as August specimens from Kilimanjaro. The change is probably due rather to the bleaching of the ochraceous ends of the hairs towards whitish than to any real difference in the colour of the hairs when first erupted.

The variation in the size of the teeth, especially of p^4 , in these squirrels is very noticeable. It seems to be partly individual, and partly due to age, the oblique wearing of the teeth causing them to appear of much greater diameter in old specimens.

BEAMYS, gen. nov.

External characters murine. Claws small. Feet short. of medium length, practically naked, very finely ringed.

Skull in general outline somewhat like that of *Saccostomus*, but very different in details. Supraorbital edges square, not ridged. Anterior zygomatic plate scarcely developed, its front edge slanting. Palatal foramina short and narrow, their posterior end barely behind the level of the front edge of the zygomatic plates; in *Saccostomus* the latter comes opposite the middle of the foramina. Posterior edge of palate

close behind back of m^3 , the mesopterygoid fossa broad. Bullæ rather small.

Incisors of medium development, their front surface flat, ungrooved. Molars, so far as the enumeration of cusps is concerned, as in *Saccostomus* and other Dendromyinae, with the important exception that the postero-internal cusp of m^1 (the x cusp) found in certain genera of Murinae—e. g. *Thamnomys*—is here also present, the cusp-formula of the three laminae of m^1 being therefore the unique one of 2.3.3, *Mus* having 3.3.2, *Thamnomys* 3.3.3, ordinary Dendromyinae 2.3.2.

Individually the teeth are highly cuspidate, the cusps well separated and distinct. On both m^1 and m^2 the postero-internal and postero-external cusps are united to each other by an enamel ridge passing round behind the main middle posterior cusp. M^3 consists of two simple distinct transverse laminae.

Below, the teeth have well-developed supplementary external ridges, and both m_1 and m_2 have distinct median posterior supplementary cusps.

This genus is readily distinguished by the above characters from any previously described. Its possession of only two cusps on the anterior lamina of m^1 separates it from the great mass of African Muridæ, which have three, while from those which have two it is equally distinguished by having three cusps on the third lamina. Its general characters are also quite distinctive, and it is not easy to say to which of the older known genera it is most nearly allied. Perhaps *Saccostomus* is the nearest, but the differences are so great that the alliance is very remote.

Externally the animal may be at once recognized by its curious naked white-tipped tail of medium length, neither shortened as in *Saccostomus*, *Steatomys*, and *Malacothrix*, nor lengthened as in other members of the group. The feet are particularly short, and therein contrast with those of *Deomys* and other aberrant African genera.

Beamys hindei, sp. n.

Size that of a medium *Mus*. Fur soft and fine; hairs of back about 10 mm. in length. General colour, so far as can be made out on a spirit-specimen, very much that of *Saccostomus campestris*, uniform greyish or greyish brown above, pure white below. Ears not large, laid forward, in a spirit-specimen, they only just reach the posterior canthus of the eye, rounded, almost naked, greyish.

Forearms, hands, and feet white. Claws, both fore and hind, small; pollex with a nail; soles naked, with six prominent pads; fifth hind toe, without claw, reaching to the end of the first phalanx of the fourth. Tail about as long as the head and body, very peculiar in shape and structure; its top, sides, and under surface flattened, with sharp edges, its lower side broader than its upper, so that its section is like that of a truncated pyramid. Basal half-inch hairy like the body, the remainder practically naked, the few fine hairs not hiding the skin; dermal rings excessively fine, 22-24 to the centimetre in the middle of the tail, not divided into separate scales, but apparently simple transverse folds in the skin. In colour the tail is grey basally and white terminally, the two passing into each other by a series of coarse mottlings, the grey predominating on two-thirds of the upper and one-third of the lower surface. Mammæ 2-2=8.

Dimensions of the type (measured on the spirit-specimen):—

Head and body 106 mm.; tail 100; hind foot 20·7; ear 16.

Skull: greatest length 33; basilar length 26·5; zygomatic breadth 15·5; nasals 11·2; interorbital breadth 4·9; palatilar length 15·2; diastema 10·5; palatal foramina 4·7; upper molar series 5·1.

Hab. Taveta, Coast region, British East Africa. Alt. 2000'.

Type. Subadult female. B.M. no. 9.6.12.23. Original number 615. Collected 26 June, 1908, and presented by Dr. S. L. Hinde.

This interesting animal forms a striking addition to the many mammalian discoveries made by Dr. and Mrs. Hinde in British East Africa. Their continued help has been of vital service to the National Museum, and the finding of such a distinct new genus is a fitting reward for the benefits they have rendered to us.

Heterocephalus dunnii, sp. n.

Size about as in *H. glaber*. External characters about as usual, the tail rather short in proportion.

Skull with the muzzle very large in proportion to the size of the brain-case, to support the large incisors. Nasals broad, little narrowed behind. Zygomata thick and very boldly expanded, as much anteriorly as posteriorly, so that each zygoma forms a segment of a circle, instead of their being far more expanded behind than in front. Lower jaw with short low coronoid, as in *phillipsi*.

Incisors enormously thick and large, far heavier than in any other member of the group. Cheek-teeth three in number above and below, as in *glaber*, but very small, as in *phillipsi*; the posterior one much the smallest.

Dimensions of the type (very old), measured in the flesh:—

Head and body 115 mm.; tail 35; hind foot 18.

Skull: condylo-basal length 23; condyle to incisor-tip 26; greatest breadth 18.5; nasals 7.5 × 5; intertemporal breadth 5.5; greatest mastoid breadth 12.5; combined breadth of upper incisors 3.0; diastema 7.7; palatilar length 11.3; length of upper tooth-series 2.9.

Hab. Wardairi, Central Somaliland.

Type. Aged female. B.M. no. 4. 5. 9. 23. Original number 141. Collected 31 January, 1904, and presented by Maj. H. N. Dunn, R.A.M.C.

This species is based on the specimen referred in 1904*, with great doubt, to *Fornarina phillipsi*, of which it was thought it might be a very old individual, with the incisors enormously developed, and three cheek-teeth present—either as an abnormality or the last tooth erupted in old age. But additional specimens of *H. glaber*, immature and old, since received from Dr. Drake-Brockman, show that no such development of the incisors occurs in old age in that animal, and I am now convinced that the present form is quite distinct.

H. dunni is of special interest, as with the dental formula of *Heterocephalus glaber* it has the low coronoid process and small-sized cheek-teeth of *Fornarina phillipsi*, and is therefore intermediate between the two. Younger specimens will, however, be needed before a decided opinion can be expressed as to its general position and the bearing its characters have on the distinction of *Fornarina* from *Heterocephalus*.

I may take this opportunity to express an opinion about the homologies of the teeth of *Heterocephalus* and the allied genera forming the family Bathyergidæ, a matter of great interest, but of extreme difficulty, owing to the way in which the teeth succeed each other, and their resemblance *inter se*, so that homologization by form is not possible.

The key to the situation is clearly the genus *Heliophobius*, in which the full dentition consists of no less than six teeth, *i. e.* P. 2. 3. 4, M. 1. 2. 3. All six are, however, almost

* Ann. & Mag. Nat. Hist. (7) xiv. p. 104 (1904).

never found in place in a skull, owing to the falling out of the anterior ones before the posterior ones come up, so that not a single skull in the considerable Museum collection has six teeth, the best specimen (No. 90. 6. 8. 30) having five and an empty alveolus behind in which the sixth was to be developed. But it is not clear that this sixth tooth (m^3) is always developed, and I therefore argue that it is the first tooth of the set to be suppressed, all the more that its situation on the root of the great incisors reduces its freedom of development and use. Next to this it might be argued, for the same reason, that m^2 had disappeared; but I prefer to consider, although without real proof, that p^2 is the next to be suppressed, as in quite young specimens, with unworn teeth, it is smaller than the one next it, while in equally young *Georychus* the two anterior teeth are practically equal in size. From this, therefore, cutting off a tooth at each end of the series, it would follow that in the 4-toothed members of the family, *Georychus* and *Bathyergus*, the formula is P. 3. 4, M. 1. 2.

Then in *Georychus*, of its four teeth, it is always the last which is the smallest, and this is situated quite on the large incisor-root, so that there seems no doubt that it is this tooth, m^2 , which is the next to disappear, leaving the three-tooth formula of *Heterocephalus* as P. 3. 4, M. 1.

And then again, for the same reasons and even more indubitably, it is the last of these, m 1, which disappears to leave the extremely specialized reduced formula of *Fornarina phillipsi**: P. 3. 4, M. 0.

It is therefore interesting to notice that while *Fornarina* shares with *Hydromys* the extreme reduction to two cheek-teeth, these are not homologous, those of *Fornarina* being P. 3. 4, and of *Hydromys* M. 1. 2.

Put into tabular form the tooth-formulæ of the group would be as follows:—

<i>Heliophobius</i> :	I. $\frac{1}{1}$, P. $\frac{2.3.4}{2.3.4}$, M. $\frac{1.2.3}{1.2.3}$	$\times 2 = 28$.
<i>Bathyergus</i> :	I. $\frac{1}{1}$, P. $\frac{3.4}{3.4}$, M. $\frac{1.2}{1.2}$	$\times 2 = 20$.
<i>Georychus</i> :		
<i>Heterocephalus</i> :	I. $\frac{1}{1}$, P. $\frac{3.4}{3.4}$, M. $\frac{1}{1}$	$\times 2 = 16$.
<i>Fornarina</i> :	I. $\frac{1}{1}$, P. $\frac{3.4}{3.4}$	$\times 2 = 12$.

* One more recently received specimen of *phillipsi* has a small third tooth above, i. e. m^1 , a fact which, in conjunction with the annectant characters of *H. dunni*, makes the validity of the genus *Fornarina* very doubtful.

These suggestions about the homologies are of necessity only provisional, and are quite likely to be modified when a microscopical study of embryonic specimens of the group indicates with certainty which teeth have rudimentary milk-predecessors, no functional milk-teeth having as yet been observed.

XIII.—*A new Gibbon from Annam.*

By OLDFIELD THOMAS.

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AMONG the collections which have been obtained in recent years in Annam by Dr. and Mrs. Vassal there occurs a Gibbon which appears to be quite distinct from any previously described. I propose to name it in honour of Mrs. Vassal, to whose help much of her husband's success in obtaining interesting animals has been due.

Hylobates gabriellæ, sp. n.

A black species without light frontal band, but with a conspicuous buffy gular patch.

General colour as in *H. leucogenys*, Ogilb.*, the ground-colour similarly deep black, but instead of the light throat and whisker-mark being white and extending up on each side to the level of the eyes, it is deep yellowish buffy and barely rises on each side above the angle of the mouth. Its hairs are soft and woolly, instead of being so stiff as to form a definite outstanding fringe; it is broader below, and, passing under the throat, entirely isolates the black chin from the black of the cheeks and chest.

Skull larger than that of *H. agilis*, *H. lar*, and other Gibbons in the Museum Collection, which, however, does not contain the skull of *H. leucogenys*. In fact the skull of *H. gabriellæ* is almost as large as that of a Siamang. In shape it is most like that of *H. leuciscus*, but the temporal constriction is deeper and the orbits more outstanding.

Skull-dimensions (those of the skin being of no value):—

Greatest length 116 mm.; basal length 83; zygomatic breadth 76; breadth across outside orbits 66·5; breadth of

* Figured by Sclater, P. Z. S. 1877, p. 680, pl. lxx.